

What is Claimed is:

1. A connector arrangement for electrically connecting multi-core cables to each other, the cables having at least 5 two core pairs allowing symmetrical transmission of time-variable differential signals on each core pair, the connector arrangement comprising:
 - a connector and a mating connector each having a housing; and,
- 10 contact elements being connected to core ends of the core pairs and being arranged in each housing to correspond to the spatial arrangement of the core pairs in the cables such that each core pair is arranged approximately equidistantly relative to each core end and the associated 15 contact elements of at least one of the other core pairs.
2. A connector arrangement according to claim 1, wherein the connector and the mating connector comprise shields, the shape of which is conformed to the connector or the 20 mating connector respectively.
3. A connector arrangement according to claim 2, wherein the shield of the connector is electrically connected to the shield of the mating connector upon plugging together.
- 25 4. A connector arrangement according to claim 1, wherein the cables are star-quad cables and the individual cores pass through the connector arrangement approximately on a circular path therein.

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5. A connector arrangement according to claim 1, wherein
the connector and mating connector comprise a plug face, in
which the contact elements are arranged in accordance with
5 the spatial arrangement of the core ends in the connector
and in the mating connector.
6. A connector arrangement according to claim 5, wherein
the connector is a circular connector, which comprises an
10 M12 plug face.
7. A connector arrangement according to claim 1, wherein
the cables, connector and mating connector are configured
to carry a direct current transmitted on two cores in
15 addition to the differential signals.
8. A connector arrangement according to claim 2, wherein
the shield of the connector and the shield of the mating
connector are asymmetrical.
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9. A connector arrangement according to claim 1, wherein
the connector and the mating connector may be screwed or
latched together.
25 10. A connector arrangement according to claim 1, wherein
the mating connector is configured for connection to a
printed circuit board.

11. A method of assembling a connector for electrical connection of at least two cables, the cables each comprising at least two core pairs allowing symmetrical transmission of time-variable differential signals on each
5 core pair, the method comprising the steps of:

connecting ends of the cores of the cable to contact elements of the connector,

introducing the contact elements into an insulating connector housing such that the two core ends and the
10 associated contact elements of each core pair are arranged approximately equidistantly relative to each core end and the associated contact elements of at least one of the other core pairs,

fitting shield plates to enclose the connector
15 housing,

connecting the shield plates to a cable shield, and positioning and attaching a crimp barrel on the area of the shield plate ends which contacts the cable shield.

20 12. A method of assembling a connector according to claim 11, wherein the connector housing comprises a contact securing means and the method further comprises the following step prior to fitting of the shield plates:

closing the contact securing means to fix the contact
25 elements in the connector housing.